UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,457	06/01/2001	David R. Miller	041581-2002	3014

36412 7590 03/17/2006	EXAMINER
DUCKOR SPRADLING METZGER	CORRIELUS, JEAN M

DUCKOR SPRADLING METZGER
401 WEST A STREET, SUITE 2400
SAN DIEGO, CA 92101-7915

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr>
<td rowspan="2" style="vertical-align: middle; text-align: center;">Office Action Summary</td>
<td>Application No.
09/872,457</td>
<td>Applicant(s)
MILLER ET AL.</td>
</tr>
<tr>
<td>Examiner
Jean M. Corrielus</td>
<td>Art Unit
2162</td>
</tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*15 February 2006*</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the Request For Continued Examination filed on

February 15, 2006.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on February 15, 2006 has been entered.

Response to Arguments

3.   Applicant's arguments filed February 15, 2006 have been fully considered but they are

not persuasive. (See examiner' s remark section).

Remark

4.   Applicant asserted that neither Lazarus nor Zhang discloses the claimed "generating a

plurality of classification trees based on behavioral demographic data for a set of consumers".

The examiner disagrees with the precedent assertion. Applicant should duly note that the term of

classification refers to the problem of predicting the number of sets to which an item belongs by

building a model based on some predictor variables. Lazarus discloses the ability to model

consumer financial behavior based on actual historical spending patterns that reflect the time-

related nature of each consumer's purchase. Lazarus states that is designated to extract

meaningful classification of merchants based on the actual consumer in specific. Lazarus

discloses the use of creating a predictive model of future spending in each merchant segment

based on transaction statistics of historical spending in the merchant segment (group) by those

consumers who have purchased from merchants in the segments. Lazarus' system provides an

improved methodology for learning the relationships between merchants in transaction data, so

that merchants who are similar to the consumer can be easily determined. Lazarus enables

prediction of consumer spending levels at specific merchants is the ability to represent both

consumer and merchants in a same modeling representation. Lazarus' system provides a

quantifiable analysis, based on high-dimension vector representations by classifying both

consumers and merchants with demographic labels. Therefore, the consumer vector can be

clustered, so that similar consumers, based on their purchasing behavior, form a merchant

segment (col.28, lines 12-17).

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1, 4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lazarus et

al., (hereinafter "Lazarus").

As to claims 1 and 4, Lazarus discloses "generating a plurality of classification trees based on

behavioral and demographic data for a set of consumers, each of said classification trees

producing a consumer cluster set" creating a predictive model of future spending in each

merchant segment based on transaction statistics of historical spending in the merchant segment

(group) by those consumers who have purchased from merchants in the segments (col.3, lines 5-

25; col.4, lines 12-37 and the ability to model consumer financial behavior based on actual

historical spending patterns that reflect the time-related nature of each consumer's purchase

(col.2, lines 23-30). Applicant should duly note that the term of classification refers to the

problem of predicting the number of sets to which an item belongs by building a model based on

some predictor variables. Lazarus discloses "searching said consumer cluster sets for an optimal

consumer cluster set that optimizes a measure of the behavioral and demographic data, said

optimal consumer cluster set having a plurality of cluster of consumers" (col.11, lines 56-65;

col.14, lines 44-51); "wherein consumers in each cluster of said plurality of cluster have

substantially similar behavioral characteristics to each other and different behavioral

characteristics from the consumers in all other clusters of said plurality of cluster" by provides a

quantifiable analysis, based on high-dimension vector representations by classifying both

consumers and merchants with demographic labels, wherein the consumer vector can be

clustered, so that similar consumer, based on their purchasing behavior, form a merchant

segment (see col.28, lines 12-17; col.1, lines 35-47; col.3, lines 1-6 and lines 55-57; col.4, lines

12-42; col.5, lines 28-31; col.9, lines 55-67; col.10, lines 1-12).

As to claim 7, Lazarus discloses the claimed "a profile definitions module for supplying profile

definitions to said partitioning module for use in creating classification trees" (see col.3, lines 1-6

and lines 55-57; col.4, lines 12-42; col.5, lines 28-31; col.9, lines 55-67; col.10, lines 1-12;

col.12, lines 57-62; col.11, lines 48-66; col.15, line 64-col.16, lines 7); "a profile data module for

supplying profile data to said partitioning module" (see col.1, lines 35-47; col.3, lines 1-6 and

lines 55-57; col.4, lines 12-42; col.5, lines 28-31; col.9, lines 55-67; col.10, lines 1-12; col.12,

lines 57-62; col.11, lines 48-66; col.15, line 64-col.16, lines 7); "a segment definitions module

for supplying segment definitions data to said partitioning module" (see col.1, lines 35-47; col.3,

lines 1-6 and lines 55-57; col.4, lines 12-42; col.5, lines 28-31; col.9, lines 55-67; col.10, lines 1-

12, lines 24-28; col.12, lines 57-62); "wherein said partition module generates an optimal

classification tree that optimizes a measure of the behavior and demographic data resulting in a

plurality of consumer clusters with consumers in each cluster of said plurality of cluster have

substantially similar behavioral characteristics to each other and different behavioral

characteristics from the consumers in all other clusters of said plurality of cluster" by providing a

quantifiable analysis, based on high-dimension vector representations by classifying both

consumers and merchants with demographic labels, wherein the consumer vector can be

clustered, so that similar consumer, based on their purchasing behavior, form a merchant

segment (see col.28, lines 12-17; col.1, lines 35-47; col.3, lines 1-6 and lines 55-57; col.4, lines

12-42; col.5, lines 28-31; col.9, lines 55-67; col.10, lines 1-12) and creating a predictive model

of future spending in each merchant segment based on transaction statistics of historical

spending in the merchant segment (group) by those consumers who have purchased from

merchants in the segments (col.3, lines 5-25; col.4, lines 12-37 and the ability to model consumer financial behavior based on actual historical spending patterns that reflect the time-related nature of each consumer's purchase (col.2, lines 23-30). Applicant should duly note that the term of classification refers to the problem of predicting the number of sets to which an item belongs by building a model based on some predictor variables.

As to claim 8, Lazarus discloses the claimed "a summarization module adapted to generate summary data, said summary data being a summarization of data contained in said cluster assignments module" (see col.1, lines 35-47; col.3, lines 1-6 and lines 55-57; col.4, lines 12-42; col.5, lines 28-31; col.9, lines 55-67; col.10, lines 1-12, lines 24-28; col.12, lines 57-62); and a summary data module adapted to store said summary data" (see col.1, lines 35-47; col.3, lines 1-6 and lines 55-57; col.4, lines 12-42; col.5, lines 28-31; col.9, lines 55-67; col.10, lines 1-12, lines 24-28; col.12, lines 57-62).

As to claim 9, Lazarus discloses the claimed "wherein said profile definitions module comprises a database" (col.10, lines 24-27).

As to claim 10, Lazarus discloses the claimed "wherein said profile data module comprises an electronic file" (col.10, lines 22-24).

As to claim 11, Lazarus discloses the claimed "wherein said segment definitions module comprises a dbase file" (col.13, line 15-col.15, line 22).

As to claim 12, Lazarus discloses the claimed "wherein said cluster assignments module comprises a dbase table" (col.13, line 15-col.15, line 22).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 2, 3, 5, 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarus et al., (hereinafter "Lazarus") US Patent no. 6,430,539 and Zhang, article entitled "Classification trees ".

As to claims 2 and 5, Lazarus does not explicitly disclose the use that the classification tree Zhang's methodology. Zhang discloses the claimed "classification trees using Zhang's methodology" (page 181, section 2.2; fig.3; fig.4; fig.5Zhang, on the other hand, discloses the use of creating a classification a plurality of classification tree base on demographics and behavior data (page 181, section 2.2; fig.3; fig.4; fig.5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of .. the cited references. Such a combination would provide Applicant's admitted prior art the enhanced capability of increasing the accuracy of prediction.

As to claim 3 and 6, Zhang discloses the claimed "wherein said searching using Zhang's methodology" (page 181, section 2.2; fig.3; fig.4; fig.5).
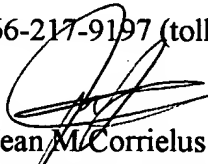
As to claim 13, Zhang discloses the claimed "wherein said partitioning module uses Zhang's methodology to create classification trees" (page 181, section 2.2; fig.3; fig.4; fig.5).

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M. Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jean M. Corrielus
Primary Examiner
Art Unit 2162

March 11, 2006